

STATE OF NORTH CAROLINA

Approved Classification: \_\_\_\_\_

OFFICE OF STATE PERSONNEL

Effective Date: \_\_\_\_\_

Analyst: \_\_\_\_\_

POSITION DESCRIPTION FORM (PD-102R-92)

(This Space for Personnel Dept. Use Only)

1. Present Classification Title of Position Transportation Engineer I	7. Pres. 15 Digit Position No. 4250-0305-0203-498	Prop. 15 Digit Pos. No. 4250-0305-0203-498
2. Usual Working Title of Position Group Leader - Project/Data Support	8. Department, University, Commission, or Agency Transportation	
3. Requested Classification of Position Transportation Engineer Supervisor I	9. Institution & Division Highways	
4. Name of Immediate Supervisor	10. Section and Unit Highway Design \ Location & Surveys	
5. Supervisor's Position Title & Position Number Transportation Engineering Supervisor II 00894	11. Street Address, City and County 1020 Birch Ridge Rd., Raleigh, NC	
6. Name of Employee	12. Location of Workplace, Bldg. And Room No. Century Center, Bldg. B	

I. A. Primary Purpose of Organizational Unit:

The primary purpose of Location & Surveys is to serve as support services in providing engineering analysis and mapping for the design of transportation facilities and the acquisition of property for the construction of transportation facilities.

B. Primary Purpose of Position:

The primary purpose of this position is to supervise support services to the Unit's field offices and the central office staff in scheduling preliminary and design surveys for TIP projects, in reviewing GPS activities, in maintaining Unit-wide databases, in evaluating engineering survey hardware and software, and in providing training and documentation for procedures and equipment. Project support is provided through serving as a primary contact for Location & Surveys and other Units in tracking (and often interpretation) of data, and the coordination of project schedules between the Unit and other Units, Branches, Divisions, etc., within NCDOT. This position supervises the flow of work going through the Unit, from initial requests, tracking of projects, and final storage and transmittal of data. This position informs supervisory personnel of potential schedule start and delivery problems and makes recommendations in scheduling other groups to enable completion of projects so as to not cause delay in project delivery. This position supervises the final checks on all project data, both written and graphic, going out of the Unit for transmittal to others, to ensure quality control and completion of projects as requested. In data support this position supervises the maintenance of equipment, GPS, and CADD databases for the Unit. In equipment research this position supervises the evaluation and maintenance of all survey and computer hardware and software for the Unit, including field testing of equipment (which could require project development) and documentation of results, procedures, etc. as well as being responsible for the development of procedures to enhance utilization of new equipment and software by the Unit in enhancing Unit efficiencies of operations. This position is responsible for the development, coordination, and implementation of equipment and procedures training for the Unit. This position also performs special tasks as requested by upper level Unit management, usually (but not limited to) the preparation of letters and/or technical reports for use by the Unit or others.

C. Work Schedule:

8:00 AM to 5:00 PM, or some variation thereof, Monday through Friday, for a total of 40 hours per work week. Extended work days may be required due to preparation of special reports on short notice.

D. Change in Responsibilities or Organizational Relationship:

The duties of this position have expanded to include additional responsibilities in the area of initial review of projects for scope and feasibility, and supervision in checking project data. Additional duties include supervision of others in utilizing CADD and other computer software to check incoming data prior to transmittal to other Units, for thoroughness and procedural consistency. Supervision of the collection and maintenance of project and task information databases has been added. The responsibility of independent decision-making during initial review and scheduling of projects has increased. Supervision of others in equipment evaluation has been added.

- II. A. DESCRIPTION OF RESPONSIBILITIES AND DUTIES: Method Used (Check One)      Order of importance X\_\_\_\_  
Sequential order \_\_\_\_\_

Place an asterisk (\*) next to each essential function. (See instructions for complete explanation.) Please note percentage of time for each function.

No.    %

- 1    40    **Project Production** - Manages the flow of requests to the Unit and flow of data from the Unit. This requires involvement in project scheduling and tracking of project progress. Activities include coordination of schedules with other Units and Branches to insure that work is requested in a reasonable time frame, providing information on work loads of individual groups (in-house and PEF) in order to determine who can perform requested tasks. Supervises review of project requests coming into the Unit from other areas. Initial review includes reviewing requests for thoroughness and engineering applicability, for special problems in collecting data, for concerns in request. Scheduling of projects with other Units, Branches, and Divisions, coordinating with Photogrammetry Unit to ensure that early aspects of project development are phased and planned properly, and coordinating through Location & Survey management to ensure that sufficient manpower will be available throughout the year to satisfy the project demands of the Unit. This includes sources of requests not traditionally included in annual scheduling meetings, for any anticipated mapping needs during the coming year. This includes continuous communication with requesting agents and others for review of schedules to allow for shifts in priorities, additional and unscheduled work, and revisions in preliminary project schedules due to delays or changes in scope. Supervision of tracking projects to ensure timely completion of projects prior to transmittal from Unit. This also includes contact with Location & Surveys field offices and PEF group to track progress of projects, in order to keep Location & Surveys upper management aware of possible scheduling problems and the need to reallocate personnel resources to complete tasks and projects on time.
- 2    30    **Unit Support** - Supervises and coordinates activities of Project/Data Support (PDS) group and others in Unit in evaluation and maintenance of hardware/software used in project development and Unit Administration. Supervises PDS group in creation and maintenance of computer programs, software attribute files, databases such as CADD and GPS GIS databases used by Unit. Supervises development and training of new procedures, training for new hardware/software and maintaining existing levels of competency in hardware/software operations. Supervises development of and maintenance of procedures manuals for Unit operations. Supervision of PDS group in special types of surveys or in general route location surveys for purposes of hardware/software evaluation and procedure development.
- 3    15    **Data Transmittal** - This includes supervision of engineering and technical staff in checking data for thoroughness and proper format, completeness and thoroughness of surveys to meet the needs of the requesting agent as expressed, providing a final quality control check for the Unit. Supervision of Data Support team in transmitting data to other Units (requesting Unit and others involved) and storing data for easy retrieval by Unit or others. Supervision of team in serving as support to Unit and other Units, Branches, etc., in data interpretation and other information regarding what was gathered, how, and why.
- 4    10    **Personnel** - Administrative/supervisory tasks such as staffing of the Project/Data Support section, personnel matters (coaching, training, disciplining employees), payroll and project charges, etc., as required by the Unit.
- 5    05    **Other** - Special tasks as requested by upper level Location & Surveys management or others, including but not limited to technical reports, charts, etc., tracking productivity, work loads, and manpower needs.

II. B. OTHER POSITION CHARACTERISTICS: (cont.)

1. Accuracy Required in Work:

Scheduling must be accurate to reflect manpower needs and coordination with other Units in tasks performed by several groups. A high degree of accuracy in forecasting needs and in considering all aspects of the request to ensure that all Units involved have been contacted is required. A thorough knowledge of what data is needed and how that data should be presented is necessary. An understanding of the requirements for projects is necessary for development of special projects.

2. Consequence of Error:

Improper planning or scheduling could result in inadequate manpower needs to meet the annual demands on the Unit. This could result in project delays or schedule changes which might affect eventual "Let" dates, resulting in not meeting proposed schedules by the NC Board of Transportation or loss to the Department of federal funds for project completion. Poor review of requests could result in costly and unnecessary work, or delays in projects. Poor review of project data could result in the need for survey crews to return to a project after work has been completed, due to the requesting agent's need for uncollected information. This could also delay project development, with same results as above.

3. Instructions Provided to Employee:

Position requirements include sufficient experience and knowledge to enable the employee to perform the duties of this position. Goals are defined and procedural guidelines are established. Deadlines are established when applicable. It is usually up to the employee to ensure completion of tasks in a timely and accurate manner, and to determine the best method to resolve issues, provide and present data, or prepare for the assigned task. Instructions may be either oral or written and may be general or specific in nature, according to the scope of work.

4. Guides, Regulations, Policies and References Used by Employee:

NCDOT Highway Design Manual; AASHTO Geometric Design Policy; CADD and other computer references and manuals; General Statutes of North Carolina as related to Highways; NCDOT Personnel Manual; NCDOT Field Fiscal Procedures Manual; NCDOT Workplace Safety Manual; NCDOT and FHWA Manuals on Uniform Traffic Control Devices (MUTCD); Legal Principles of Boundary Surveying and other legal texts on surveying; various engineering and surveying texts including cadastral, geodesy, and route location; general practices, principles, procedures, and ethics of professional engineering and surveying as described by the NC State Board of Registration for Professional Engineers and Registered Land Surveyors; dictionary.

5. Supervision Received by Employee:

Once initial training has been completed, this is an independent position, supervised by a Transportation Engineering Manager I. Very little daily instruction or supervision is provided on 90% of the duties of the position. Problem areas are either resolved at this level or passed up to the supervisor for involvement or resolution. Tasks and duties may be reviewed during and after completion, but due to the independent operation of this position, specific activities that lead to task accomplishment are not reviewed. Personnel matters are reviewed with immediate supervisor as needed.

6. Variety and Purpose of Personal Contacts:

This position requires personal contact with Location & Surveys Locating Engineers and Area Locating Engineers for the purpose of determining project status, scheduling needs, coordination of work between groups and/or areas, and review of project data. It requires contact with engineers and technicians in other Units, Branches, and Divisions, including Branch Managers and Division Engineers, in coordinating and scheduling work. It includes contact with engineers, technicians, and others outside of the Department in providing or requesting additional project data that may not be obtained through usual route location survey means. It includes contact with vendors of survey and computer hardware and software.

7. Physical Effort:

Physical effort involves mostly office work. There may be some outside work due to special assignments. Outside work may involve any type of weather or geographic conditions, at any time of day. Some physical labor such as traversing rough terrain, chopping brush, or carrying heavy or cumbersome equipment may be required at times. Travel to different areas of the state may be required for some tasks.

8. Work Environment and Conditions:

80% of work is done inside, in controlled office environment, in good conditions. 20% may be outside, in any type of weather including heat, cold, or rain.

9. Machines, Tools, Instruments, Equipment and Materials Used:

Computers; CADD workstations; hand-held calculators; triangles, scales, and other hand-drafting or measuring equipment; manuals; large photographs and plan sheets; telephone. Occasional use of survey equipment such as plumb bobs, electronic theodolites, GPS receivers, tripods, bush axes, and others may be required. Operation of motor vehicles may be required during travel or in performance of special duties.

10. Visual Attention, Mental Concentration and Manipulative Skills:

Computer/calculator operation, writing memos, and compiling reports require keypunch and writing abilities. Mental concentration is required to plan, coordinate, and maintain schedules, review data, solve engineering problems, and work with others in problem-solving. Mental concentration is required for 85%-90% of the duties. Visual attention is required in checking data and project evaluation.

11. Safety for Others:

This position has to be aware of the safety for field personnel in gathering data and completing requested assignments. This position has to ensure that any requested information can be obtained safely, without endangering the lives of NCDOT personnel or others doing the work, as well as members of the public who may be involved in the operations, either through vehicular travel or close proximity to the project activity.

12. Dynamics of Work:

Project schedules are constantly changing, requiring constant review of preliminary and actual yearly schedules. Engineering and design standards are often revised. Methods, procedures, and equipment for collecting route location survey data, including survey equipment and computer hardware and software, are always being revised, upgraded, or improved. These changes require a continuous upgrading and maintenance of knowledge of the engineering and surveying professions.

III. KNOWLEDGE, SKILLS & ABILITIES AND TRAINING & EXPERIENCE REQUIREMENTS:

A. Knowledge's, Skills and Abilities:

Working knowledge of the principles and practices of Civil Engineering and Route Location Surveying. Knowledge of the different phases of highway design and different duties of the different Units, Branches, and Divisions of NCDOT. Skill in the operation of computer hardware and software, including CADD. Ability to understand and explain preliminary and design mapping, construction and Right Of Way plans, and legal documents. Effective oral and written communication.

B. 1. Required Minimum Training:

Graduation from a four year college or university with a Bachelor of Science in Civil Engineering, and three years of progressive Transportation Engineering experience; or graduation with a Bachelor of Science in Engineering Technology with four years of progressive transportation experience: or an equivalent combination of education and experience.

2. Additional Training/Experience:

Additional training as needed will be supplied by supervisor and Location & Surveys Unit or NCDOT Training Personnel.

3. Equivalent Training and Experience:

In lieu of a BSCE, two years of directly related Transportation Engineering experience at the TTS I level or above is equivalent to one year of education. In lieu of a civil engineering degree (BS or AS), successful completion of the ITRE Highway Engineering Concepts Course will be required.

C. License or Certification Required by Statute or Regulation:

NC Driver's License is required.

Professional Engineer or Engineer-In-training Certificate preferred.

IV. CERTIFICATION: Signatures indicate agreement with all information provided, including designation of essential functions.

Supervisor's Certification: I certify that (a) I am the Immediate Supervisor of this position, that (b) I have provided a complete and accurate description of responsibilities and duties and (c) I have verified (and reconciled as needed) its accuracy and completeness with the employee.

Signature \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Employee's Certification: I certify that I have reviewed this position description and that it is a complete and accurate description of my responsibilities and duties.

Signature \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Section or Division Manager's Certification: I certify that this position description, completed by the above named immediate supervisor, is complete and accurate.

Signature \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Department Head or Authorized Representative's Certification: I certify that this is an authorized, official position description of the subject position.

Signature \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_